UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,906	08/09/2001	Chakki Kavoori	9824-136-999	5185

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	EXAMINER
	ALI, SYED J

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	09/927,906	KAVOORI ET AL.	
	Examiner	Art Unit	
	Syed J. Ali	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _13 June 2005_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-26_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-26_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   This office action is in response to the amendment filed June 13, 2005. Claims 1-34 are

presented for examination.

2.   The text of those sections of Title 35, U.S. code not included in this office action can be

found in a prior office action.

Claim Rejections - 35 USC § 101

3.   **Claim 25 is rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.**

4.   As per claim 25, the claimed "system" is non-statutory as it is not tangibly embodied, in

that it fails to include any hardware as part of the system. The system could be implemented

entirely in software. The amendments relating to "a receiver" and "means for…" do not

necessarily constitute hardware elements.

Claim Rejections - 35 USC § 103

5.   **Claims 1-17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Prestifilippo et al. (USPN 5,446,889) (hereinafter Prestifilippo) in view of Kodosky et al.

(USPN 6,608,638) (hereinafter Kodosky).**

6.   As per claim 1, Prestifilippo teaches the invention as claimed, including in a device

having a processor, a computer readable memory, and at least one hardware resource coupled to

each other, a method of operating resources, comprising the steps of:

    a)   locating a first address in the computer readable memory of the device, the first

    address containing operating information associated with a first resource (col. 3 lines 9-

    10);

    c)   reading a pointer associated with the first address that locates a subsequent

    address for a subsequent resource (col. 3 lines 11-13); and

    d)   repeating steps a) through c) for a quantity of pointers respectively associated

    with multiple resources (col. 3 lines 18-20).

7.   Kodosky teaches the invention as claimed, wherein the operating information is

associated with hardware resources (col. 31 lines 36-42); and

    b)   transmitting operating information associated with the addresses to the hardware

    resources (col. 10 line 60 - col. 11 line 20).

8.   It would have been obvious to one of ordinary skill in the art to combine Prestifilippo and

Kodosky as Kodosky discusses the organizational structure of a linked list for storing operating

information associated with hardware resources at length without discussion of a technique for

traversing the list. Such traversal methods are largely well known in the art, but Prestifilippo

teaches a method that is especially well suited for combination with Kodosky. Prestifilippo

notes that linked lists can be used to store practically any kind of data, and the method of

traversing linked lists disclosed by Prestifilippo is especially beneficial in the case of system

crashes or hardware failures. In that sense, a well known organizational principle is applied to a

programmable hardware system, such that the programmer can control the hardware implementation without fear of corruption of the underlying data structures.

Furthermore, though neither Prestifilippo nor Kodosky specifically address a wireless communication device, to implement a linked list of hardware resources in such a device would be an obvious modification of the combination of Prestifilippo and Kodosky. That is, Kodosky addresses the benefits of storing hardware resources for an electronic device in a linked list data structure. Any programmable electronic device that has resources associated with portions of the implementation could make use of the disclosed data structure, including wireless communication devices. Prestifilippo is presented to demonstrate one of the well-known methods of traversing linked lists. This is an elementary programming technique, readily applicable to any linked list data structure. Hereinafter, a wireless communication device is considered an obvious modification of the combination of Prestifilippo and Kodosky.

9.   As per claim 2, Prestifilippo teaches the invention as claimed, including the wireless communication device recited in claim 1 wherein the method further comprises the step of:

    e)   returning to the first pointer when all of the quantity of pointers has been exhausted in a list stored in memory (col. 9 lines 8-9, wherein circular linked lists are a well-known and obvious implementation of such a data structure, i.e. the "next" pointer of the last element is designed to point to the head element).

10.   As per claim 3, Kodosky teaches the invention as claimed, including the wireless communication device recited in claim 1 wherein the method further comprises the step of:

e)   repeating steps a) through c) for each of multiple sets of operating information associated with multiple uses of the hardware resource (col. 43 line 65 - col. 44 line 24; col. 44 lines 50-54).

11.   As per claim 4, Kodosky teaches the invention as claimed, including the wireless communication device recited in claim 3 wherein the multiple sets of operating information are utilized within a system cycle (col. 29 line 62 - col. 30 line 5).

12.   As per claim 5, Kodosky teaches the invention as claimed, including the wireless communication device recited in claim 1 wherein the method further comprises the step of:

e)   repeating steps a) through d) for a plurality of entries of operating information for the hardware resource, wherein each of the entries is respectively associated with a reuse of the hardware resource for a different application at a different point in time (col. 44 lines 46-58).

13.   As per claim 6, Kodosky teaches the invention as claimed, including the wireless communication device recited in claim 1 wherein the information for operating the first hardware resource includes semi-static hardware control parameters (col. 12 lines 33-49; col. 23 lines 25-34).

14.   As per claim 7, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 6 wherein the semi-static hardware control parameters

include flags, parameters, or states for the first hardware resource (col. 23 lines 25-34).

15.   As per claim 8, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 1 wherein the information for operating the first hardware

resource includes dynamic hardware control parameters (col. 12 lines 33-49; col. 23 lines 25-34).

16.   As per claim 9, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 8 wherein the dynamic hardware parameters are

controlled by dedicated hardware resources (col. 16 line 66 - col. 17 line 11).

17.   As per claims 10-13, Kodosky does not specifically teach the invention as claimed,

wherein the hardware resources include at least one tracking finger, at least one searcher

element, at least one downlink transmitter element, and at least one matched filter element.

However, Kodosky discusses a system that is particularly suited for controlling automation

hardware, but is not limited to such (col. 12 lines 33-49). The method is applicable to a wide

variety of implementations, and provides hardware resources associated with a plethora of

devices or applications.

18.   As per claim 14, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 1 wherein the method further comprises the step of:

e)   executing a pointer from a primary list of pointers that transfers control to a

secondary list with operating information associated with the hardware resource (col. 23

lines 6-14; col. 23 lines 39-43).

19.   As per claim 15, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 1 wherein only the hardware resources in the secondary

list that are grouped together for a specific category are enabled via the pointer from the primary

list (col. 23 lines 36-56; Fig. 11).

20.   As per claim 16, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 15 wherein the secondary list has a pointer at the end of

the operating information grouped together for the specific purpose, the pointer for the secondary

list returning control to the primary list (col. 23 lines 44-46).

21.   As per claim 17, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 15 wherein the primary list has a plurality of pointers that

point to at least one other list that tracks an identification of a user of hardware resources (col. 43

line 65 - col. 44 line 24; col. 44 lines 50-54).

22.   As per claim 26, Prestifilippo teaches the invention as claimed, including in an wireless

communication device having a processor, a means for performing the method of claim 1 (Fig.

4).

23.   **Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodosky.**

24.   As per claim 18, Kodosky teaches the invention as claimed, including in an wireless communication device having a processor, a computer readable memory, and at least one hardware resource all coupled to each other, a method of generating a scheduler for managing the hardware resource, the method comprising the steps of:

   a)   receiving at the wireless communication device, a quantity of hardware resources available in the wireless communication device (col. 30 line 66 - col. 31 line 25);

   b)   receiving operating information for the hardware resource (col. 31 lines 26-35); and

   c)   generating a list in the memory for linking requests for using the hardware resource (col. 31 lines 36-42).

25.   Though Kodosky does not specifically address using a linked list of hardware resources for a wireless communication device, to do would be an obvious modification thereof, as discussed above in paragraph 8.

26.   As per claim 19, Kodosky teaches the invention as claimed, including the wireless communication device recited in claim 18 wherein the method further comprises the steps of:

   d)   receiving a request from a requester for using the hardware resource in the wireless communication device (col. 31 lines 6-11); and

e)   associating operating information for the given hardware resource with the
requester in an entry of the list (col. 31 lines 41-42).

27.   As per claim 20, Kodosky teaches the invention as claimed, including the wireless
communication device recited in claim 18 wherein the hardware resources managed by the list
have the same function (col. 31 lines 6-11).

28.   As per claim 21, Kodosky teaches the invention as claimed, including the wireless
communication device recited in claim 18 further comprising the step of:

d)   generating a memory address that links the operation information of the hardware
resources to another hardware resource (col. 31 lines 36-42).

29.   As per claim 22, Kodosky teaches the invention as claimed, including the wireless
communication device recited in claim 19 further comprising the step of:

f)   generating a memory address that links a last hardware resource to a first
hardware resource (col. 23 lines 44-55).

30.   As per claim 23, Kodosky teaches the invention as claimed, including the wireless
communication device recited in claim 19 further comprising the step of:

f)   generating a memory address that link the hardware resources for each of multiple
reuses within the given time span (col. 43 line 65 - col. 44 line 24; col. 44 lines 50-54).

31.   As per claim 24, Kodosky teaches the invention as claimed, including the wireless

communication device recited in claim 19 further comprising the step of:

  f)   generating a second list that provides a pointer to operation information of

hardware resources that have a common category (col. 23 lines 6-14).

32.   As per claim 25, Kodosky teaches the invention as claimed, including a system for

communicating information between a host communication   device and an external

communication device, the system comprising:

  receiving a request for using a hardware resource in the host communication device for

communicating to the external communication device (col. 30 line 66 - col. 31 line 25);

  modifying a scheduler for the hardware resources in computer memory of the host

communication device to satisfy the request (col. 31 lines 26-35); and

  operating the hardware resources in the host communication device according to the

modified scheduler (col. 31 lines 36-42).

Response to Arguments

33.   **Applicants' arguments filed June 13, 2005 have been fully considered but they are**

not persuasive.

34.   Applicants argue, *"Kodosky does not teach, or even suggest, a method of operating*

hardware resources in a wireless communication device, as required by the claimed invention."

Additionally, Applicants argue, *"[n]either Prestifilippo nor Kodosky, alone or in combination,*

teaches or suggests a method of operating hardware resources in a wireless communication device, as required by the claimed invention."

35.   These points have been addressed in the modified grounds of rejection presented above. The present amendment limits the "electronic device" to a "wireless communication device." Though neither Prestifilippo nor Kodosky specifically addresses a wireless communication device, Examiner believes this to be an obvious modification of the combination of Prestifilippo and Kodosky, as discussed above in paragraphs 8 and 25.

Conclusion

36.   Applicants' amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Syed Ali
August 18, 2005

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